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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,929	09/23/2003	Katsumasa Yoshii	9281-4666	3347

7590 03/07/2005  
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EXAMINER

NGUYEN, HOAN C

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/668,929

Applicant(s)

YOSHII ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-23 is/are pending in the application.
- 4a) Of the above claim(s) 19,20,22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17,18 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election of species A (claims 17-18 and 21) in the reply filed on 12/15/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 19-20 and 22-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/15/2004.

Moreover, Applicant's arguments with respect to Amended claim 17 based on the amendment filed on 8/2/2004 have been considered but are moot in view of the new ground(s) of rejection. Therefore, this is Final action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chung et al. (US4456336).

Claim 17:

Chung et al. teach (Figs 1A-B) a liquid crystal display device comprising

- a reflector 16 having a plurality of light reflective portions arranged randomly adjacent to each other on a surface of a base material (Fig. 1B),
- each said concave portion having a curved surface with a maximum inclination angle at one side portion thereof so that the one side portion has inherently a larger reflectance magnitude than an opposing side portion, and
- a light reflectance peak at a predetermined angle in accordance with a location of the maximum inclination angle, and that opposes a viewpoint of an observer.

wherein

Claim 18: the base material (aluminum or silver, col. 3 lines 3-4) is reflective, thereby forming a reflective liquid crystal display device.

2. Claims 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Yonekubo et al. (JP02002090511A).

Claim 17:

Yonekubo et al. teach (Figs. 3B and 5) a liquid crystal display device comprising

- a reflector having a plurality of light reflective portions arranged randomly adjacent to each other on a surface of a base material 21,

- each said concave portion having a curved surface with a maximum inclination angle at one side portion thereof so that the one side portion has inherently a larger reflectance magnitude than an opposing side portion, and
- a light reflectance peak at a predetermined angle in accordance with a location of the maximum inclination angle, and that opposes a viewpoint of an observer.

wherein

Claim 18: the base material is reflective, thereby forming a reflective liquid crystal display device.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US6130736A) in view of Chung et al. (US4456336).

Sasaki et al. teach (Fig. 1) a liquid crystal display device comprising:

- a pair of substrates 1/2,
- a liquid crystal layer 3 disposed between the substrates,
- the reflector 14 disposed on one of the substrates,
- a transparent intervening layer (a first overcoat layer 17a) disposed on the reflector,

- a color filter layer 16 disposed on the transparent intervening layer,
- a transparent planarization layer (a second overcoat layer 17b) disposed on the color filter layer,
- a transparent electrode (9 made of ITO (indium-tin-oxide)) disposed on the transparent planarization layer,
- an alignment layer (an orientation film 11) disposed between the transparent electrode and the liquid crystal layer.

However, Sasaki et al. fail to teach the reflector with feature in claims 17.

Chung et al. teach (Fig. 1A-B) the reflector with feature in claim 17 for improving reflector (col. 3 lines 53-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a reflection type liquid crystal display device as Sasaki et al. with the reflector with feature in claim 17 for improving reflector as taught by Chung et al. (col. 3 lines 53-55).

4. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US6130736A) in view of Yonekubo et al. (JP02002090511A).

Sasaki et al. teach (Fig. 1) a liquid crystal display device comprising:

- a pair of substrates 1/2,
- a liquid crystal layer 3 disposed between the substrates,

- the reflector 14 disposed on one of the substrates,
- a transparent intervening layer (a first overcoat layer 17a) disposed on the reflector,
- a color filter layer 16 disposed on the transparent intervening layer,
- a transparent planarization layer (a second overcoat layer 17b) disposed on the color filter layer,
- a transparent electrode (9 made of ITO (indium-tin-oxide)) disposed on the transparent planarization layer,
- an alignment layer (an orientation film 11) disposed between the transparent electrode and the liquid crystal layer.

However, Sasaki et al. fail to teach the reflector with feature in claims 17.

Yonekubo et al. teach (Figs. 3B and 5) the reflector with feature in claim 17 for higher light utilizing efficiency according to its use and a method for producing the display panel.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a reflection type liquid crystal display device as Sasaki et al. with the reflector with feature in claim 17 for higher light utilizing efficiency according to its use and a method for producing the display panel as taught by Yonekubo et al. (abstract).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on **MONDAY-THURSDAY:8:00AM-4:30PM**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN  
Examiner  
Art Unit 2871

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